On page 3, delete the first paragraph ending at line 11 and replace it with the following in accordance with 37 CFR §1.121:

iii) precipitating DNA by adding ethanol to the mixture obtained in the step (ii).

The above objects of the present invention are also achieved by providing a method for obtaining DNA from fish spermatogonium, which comprises:

A2

i) disrupting a fish spermatogonium in an alkaline solution of pH 8 to pH 12 which contains more than 1 M of salts, such as monovalent salts;

ii) adding an anhydrous compound to the disrupted spermatogonium mixture obtained in the step (i), to effect acylation reaction;

iii) precipitating DNA by adding ethanol to the acylated spermatogonium mixture.

On page 4, delete the first paragraph ending at line 9 and replace it with the following in accordance with 37 CFR §1.121:

A3

Fish spermatogonium is disrupted by crusher in distilled water to produce colloid mixture. The colloid mixture is filtered through sieve to eliminate tissues which were not crushed, and then an alkaline solution with high salt concentration is added thereto. Also, fish spermatogonia may be disrupted in an alkaline solution with high salt concentration, or may be disrupted in distilled water followed by adding high salt concentration solution, and an alkaline solution of pH 8 to pH 12 is added thereto, sequentially. High salt concentration solution is understood to have more than 1 M of salts, more preferably not less than 4 M of salts.

Delete the paragraph bridging between **pages 4 and 5** and replace it with the following in accordance with 37 CFR §1.121:

A4

Hereinafter, the methods of the present invention will be described in more detail. Upon disruption of cells, highly concentrated salts impart a strong positive charge to DNA binding proteins, which enables DNA binding proteins to be readily

separated from DNA. DNA binding proteins such as protamines have a high content of lysine. Lysine contains an amine group that can be positively charged by highly concentrated salts. Amine groups with a positive charge in DNA binding proteins, can be deprotonized by alkaline solution to form highly reactive functional groups, which can react with anhydride resulting in loosing ionic affinity toward DNA (Roger L. Lundbland and Claudia M. Noyes., chemical Reagents for Protein Modification, Vol I CRC Press, Inc., 1984, page 130 -131; Riordan, J. F. and Vallee, B. L., Acetylation, Meth. Enzymol., 11, page 565-570, 1967). Moreover, alkaline solution of the present invention is able to cause lysis of RNA. Therefore, DNA can be obtained without using RNase using the method of the present invention.

On page 5, delete the first full paragraph starting from line 3 and replace it with the following paragraph:

Upon reacting of the deprotonized amine group with anhydride, the amine groups of the protein and of RNA are acylated loosing a positive charge and then, the protein is not combined again with DNA under a low concentration of alkaline salts. Then, DNA is precipitated in fibrous form from the reaction mixture by addition of ethanol thereto. The DNA thus obtained is washed with ethanol and dried to produce a white DNA fiber. In order to make manure from the by-product of the above process, nitric acid or phosphoric acid equivalent to the base used in the process of the present invention, is added to the by-product mixture and then distilled simply after adjusting pH of said mixture to neutral.

In the Claims:

In accordance with 37 CFR §1.121, please substitute for original claim 15 the following rewritten versions of the same claims, as amended. The changes are shown explicitly in the attached "Version with Markings to Show Changes Made."

1. (Once Amended) A process for obtaining deoxyribonucleic acid (DNA) from fish spermatogonium, which comprises:

i) disrupting a fish spermatogonium to produce a milky-white colloid containing DNA;

A6 B1 Cont. CONT.

ii) adding an alkaline solution of pH 8 to pH 12 that contains more than 1 M of salts to said milky-white colloid to separate DNA from protamines;

iii) adding ethanol solution to the mixture obtained in step ii) to precipitate DNA.

B3

11. (Once Amended) A process for obtaining deoxyribonucleic acid(DNA) from fish spermatogonium, which comprises:

A7

i) disrupting a fish spermatogonium in an alkaline solution of pH 8 to pH 12 that contains more than 1 M of salts;

ii) adding ethanol solution to the mixture obtained in step i) to precipitate DNA.

A8

15. (Once Amended) A liquid manure comprising the residual by-product solution after separation of DNA from the solution obtained by disrupting fish spermatogonium and then treating by alkaline solution of pH 8 to pH 12 that contains more than 1 M of salts, wherein said salt is selected from the group consisting of sodium nitrate, and sodium phosphate.